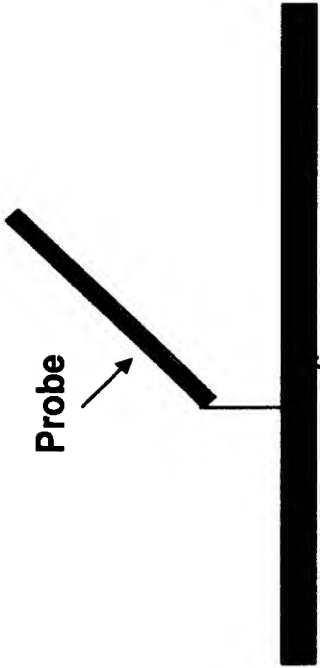


**Southern 1 - The components**



**Single Template**



**Single Reaction Zone**

## Southern 2 – Hybridising a template to probe present in a reaction zone

Method disclosed in Southern

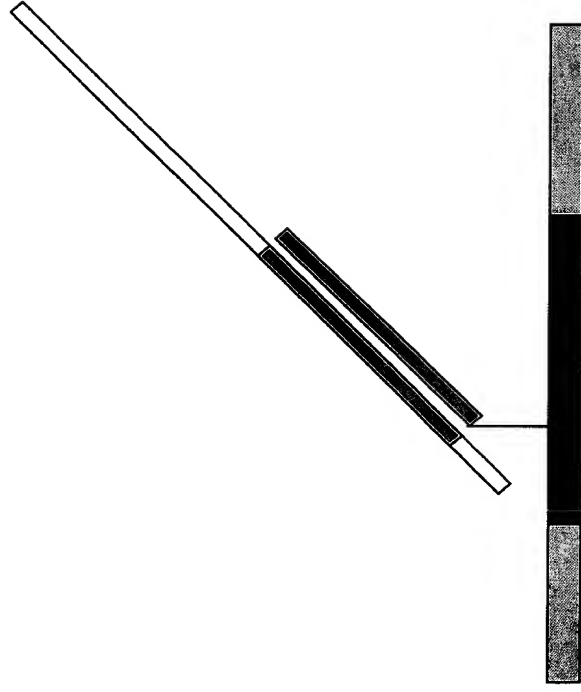
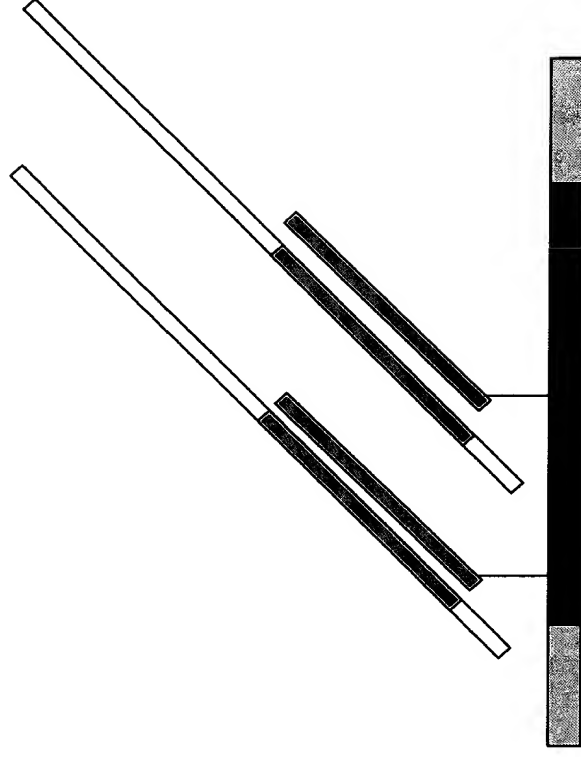
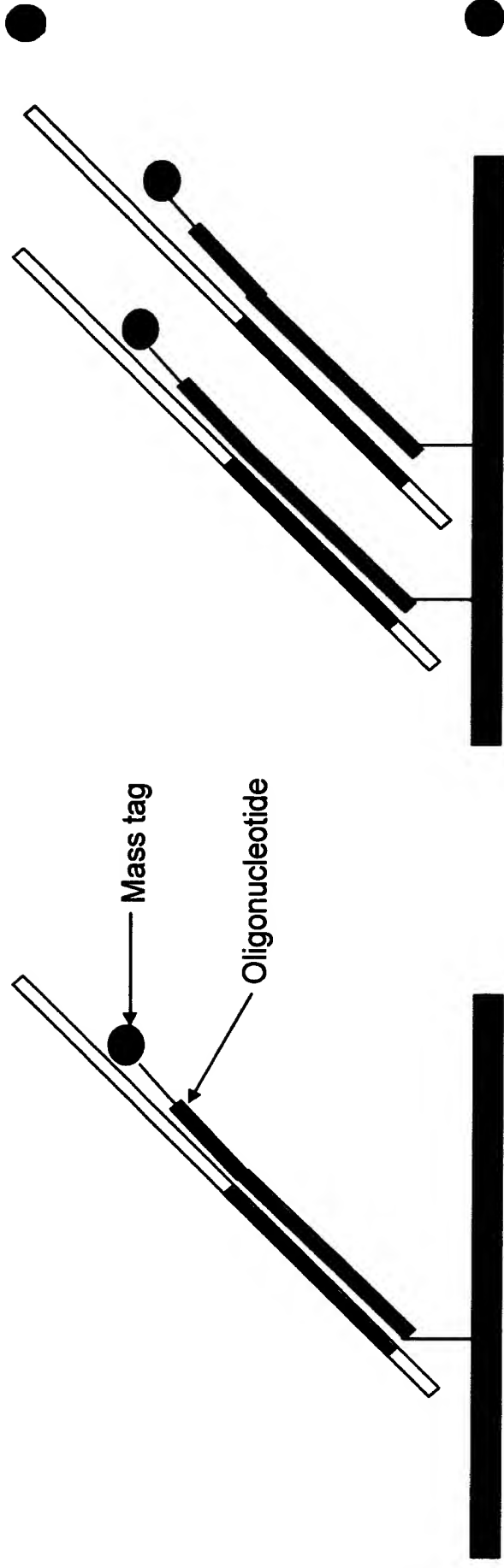


Diagram showing why the method of Southern does not permit sequencing of two templates in a single reaction zone

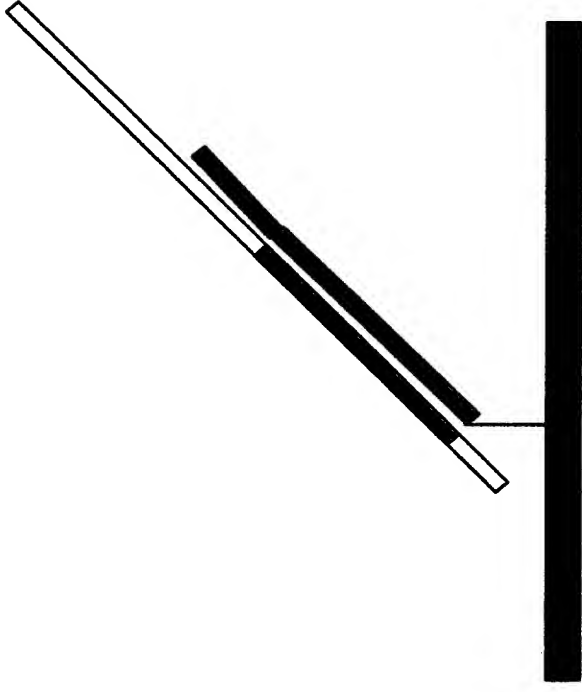
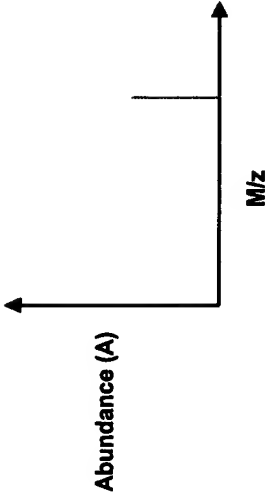


### Southern 3 - Ligating Mass Tagged Oligonucleotides



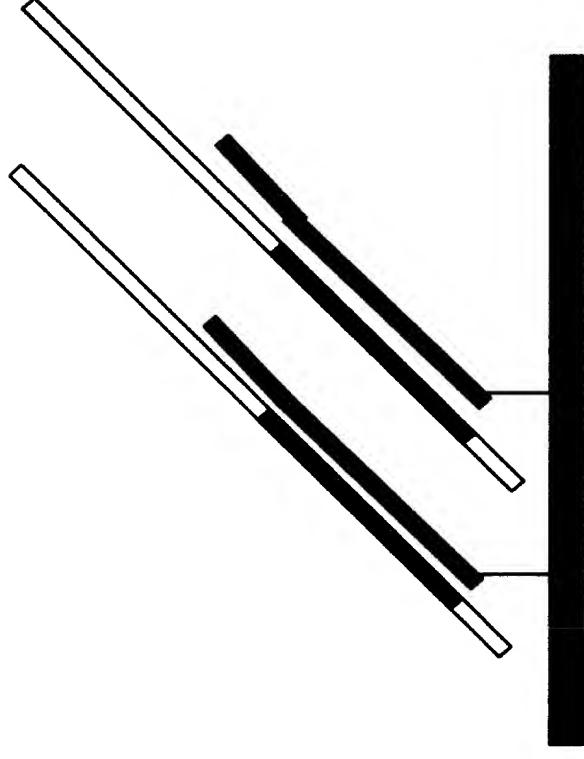
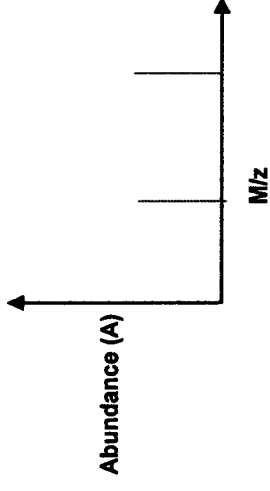
## Southern 4 - Cleave, Desorb and Detect Mass Tags

Mass spectrum showing mass and abundance of released mass tags



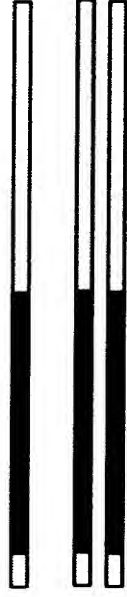
The mass tag detected is used to identify the sequence of the template adjacent to the region complementary to the probe

Mass spectrum showing mass and abundance of released mass tags

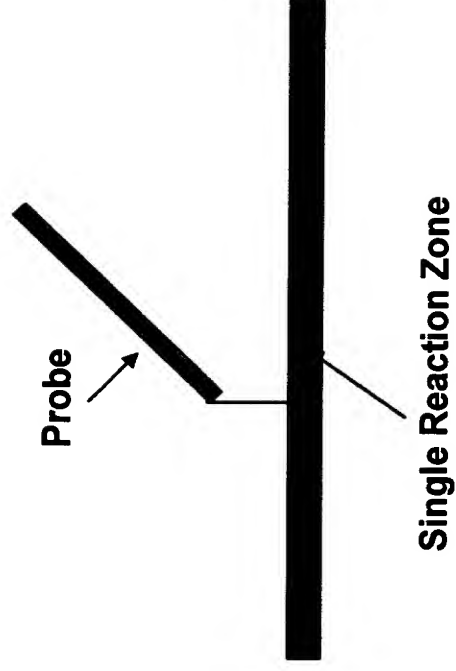


The mass tag detected cannot be assigned to a template and therefore, no sequence information can be obtained for either template

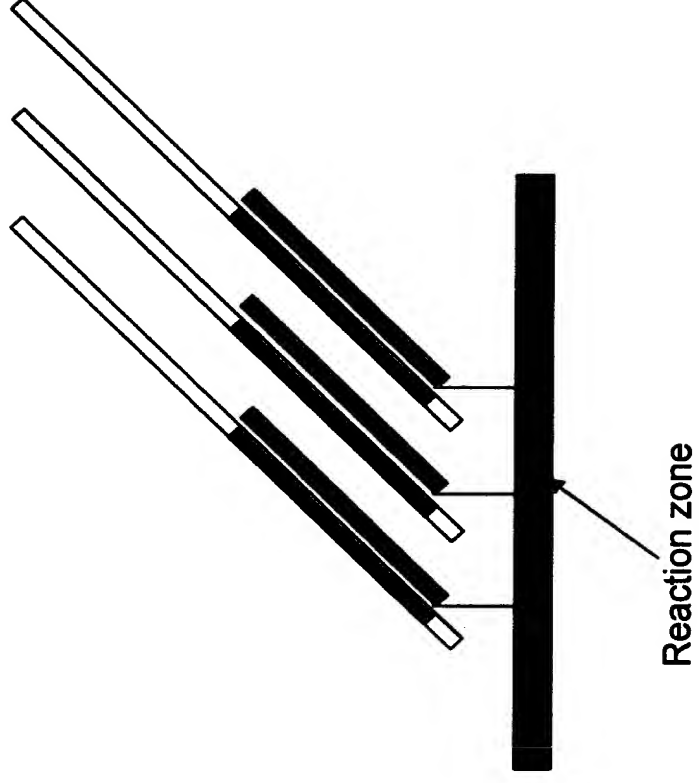
## Schmidt & Thompson 1 - The components



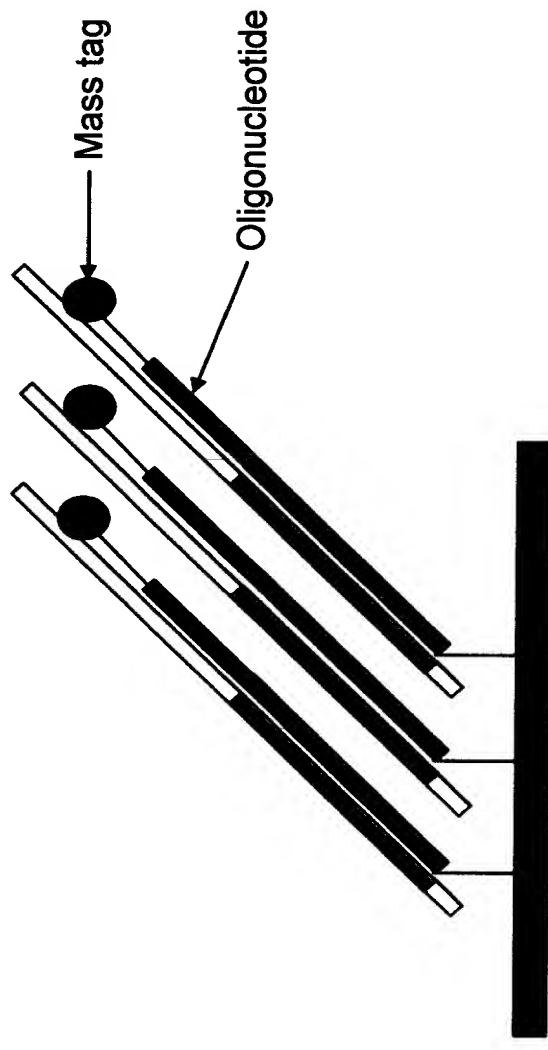
## 2 or more Templates in different quantities



## Schmidt & Thompson 2 - Hybridising templates to a probe present in a reaction zone

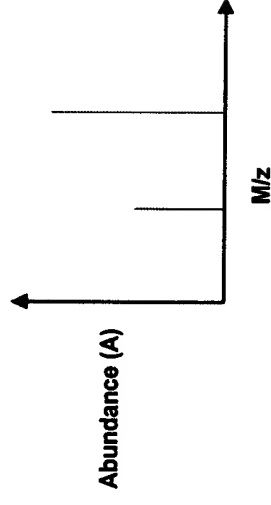


### Schmidt & Thompson 3 - Ligating Mass Tagged Oligonucleotides



## Schmidt & Thompson 4 - Cleave and Detect Mass Tags

Mass Spectrum showing mass and abundance of mass tags



The abundance of each mass tag detected is used to identify the template to which it relates. Each mass tag is then used to identify the sequence of the corresponding template.

